

REMARKS

Applicants would again like to thank Examiner Torres-Velazquez and Primary Examiner Cole for their courtesy during the telephonic interview conducted on January 23, 2003.

Reconsideration of the various objections and rejections set forth in the Office Action dated October 30, 2002 is respectfully requested in view of the above amendment and following remarks.

Claim 5 has been amended. No claims have been added or cancelled. Upon entry of this amendment, claims 2-23 will be pending in the application.

The amendment to claim 5 is supported by the specification at, for example, page 1, lines 10-17.

The 35 U.S.C. §112 rejection of claim 16.

Claim 16 was rejected under 35 U.S.C. §112, second paragraph as being indefinite because of its dependency on cancelled claim 1. The dependency of claim 16 was previously changed from claim 1 to claim 5. Examiner Torres-Velazquez agreed to withdraw this rejection in a telephone interview.

The 35 U.S.C. §102(b) rejection of claims 2-7 and 23.

Claims 2-7 and 23 were rejected under 35 U.S.C. §102(b) as having each and every feature and relationship anticipated by International Publication No. WO 96/12849 to Holm.

- **The Holm reference is not properly 35 U.S.C. §102(b) prior art to Applicants' claims.**

The Holm publication was published on May 2, 1996. The present application claims priority from U.S. Application No. 60/036,200 filed on January 21, 1997. The

present application was filed less than one year after the Holm publication and thus the Holm publication cannot be 35 USC §102(b) prior art against the present application.

- **The Holm reference does not anticipate pending claims 2-7 or 23.**

The Holm reference requires the use of pulped or “elementary fibers, i.e. detached (freed) separate fibers.” Such pulped fibers have been freed from, or never joined by, natural binding agents. See, for example, column 2, lines 28-36; column 3, lines 18-22 (describing pulped softwood and freed ramie fibers); column 4, Table 1, notes 1 and 5 (describing pulped softwood and freed ramie fibers); and claim 1 (requiring “elementary fibres”).

Applicants have amended claim 5 to clarify that their unpulped fiber bundles comprise elementary fibers substantially held together by natural binding agents. Claims 2-7 and 23 are not anticipated by the Holm reference for at least this reason.

The 103(a) rejection of claims 8-10 over U.S. Patent No. 5,958,186 to Holm.


Claims 8-10 were rejected under 35 U.S.C. §103(a) as having each and every feature and relationship suggested by the above Holm reference as applied to claims 2-7 and 23.

As discussed above, the Holm reference does not teach or suggest each and every feature of Applicants' claim 5, or Applicants' claims 8-10 which depend directly from claim 5. Claims 8-10 are NOT *prima facie* obvious over the Holm reference for at least this reason.

In summary, Applicants have addressed each of the rejections within the present Office Action. It is believed the application now stands in condition for allowance, and prompt favorable action thereon is earnestly solicited.

Respectfully submitted,
Rui B. FERREIRA et al

By




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Appl. No.: 09/341,635
Attorney Docket No. DEXNON/087/PC/US

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5. A wet-laid nonwoven web material comprising a predominant amount of unpulped long natural fiber bundles and a pulp fiber component, wherein the unpulped long natural fiber bundles are comprised of a plurality of elementary fibers substantially joined by natural binding agents.



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5. A wet-laid nonwoven web material comprising a predominant amount of unpulped long natural fiber bundles and a pulp fiber component, wherein the unpulped long natural fiber bundles are comprised of a plurality of elementary fibers substantially joined by natural binding agents.

2. nonwoven web material of C5 wherein the natural fiber bundles are cordage fibers.

4. long

U.S. Patent Application No. 09/341,635 pending claims

Claim status as per the October 30, 2002 Office Communication.

- Claims 2-23 are pending.
- Claims 2-17 and 23, drawn to an article, are under consideration.
- Claims 11-15 and 17 are allowed.
- Claim 16 is rejected under 35 USC 112, 2nd paragraph due to an alleged reference to a cancelled claim.
- Claims 2-7 and 23 are rejected under 35 USC 102(b) as being anticipated by International Publication No. WO 96/12849.
- Claims 8-10 are rejected under 35 USC 103(a) as being obvious over International Publication No. WO 96/12849 as applied to claims 2-7 and 23.
- Claims 18-22, drawn to a method, are withdrawn under traverse.

Claims under consideration.

2. The nonwoven web material of claim 5 wherein the natural fiber bundles are cordage fibers.
- ✓3. The nonwoven web material of claim 5 wherein the natural fiber bundles are selected from sisal, abaca, henequen, kenaf and jute.
- 4 The nonwoven web material of claim 5 wherein the long natural fiber bundles have a chopped fiber length in the range of 10 - 50 mm.
172mm
- ✓5. A wet-laid nonwoven web material comprising a predominant amount of unpulped long natural fiber bundles and a pulp fiber component.
- ✓6. The nonwoven web material of claim 5 comprising a synthetic fiber component.
- ✓7. The nonwoven web material of claim 6 wherein the synthetic fiber component is selected from cellulose acetate, viscose rayon, nylon and polyolefin fibers.

attention Examiner Norca Liz Torres-Velazquez

1

U.S. Patent Application No. 09/341,635 pending claims

8. The nonwoven web material of claim 5 wherein the web has a basis weight up to about 200 g/m².
see tables 2

9. The nonwoven web material of claim 5 wherein the web has a basis weight of at least about 100 g/m².

10. The nonwoven web material of claim 5 wherein the unpulped fibers have a modulus of elasticity in the range of about $2 - 5 \times 10^6$ psi.

11. A composite multilayer sheet material comprising a wet-laid nonwoven fibrous web material wherein the dominant fiber component is unpulped long natural fiber bundles and a pulp web secured thereto.

12. The composite sheet material of claim 11 wherein the layers are secured by hydroentanglement.

13. The composite sheet material of claim 11 wherein the layers are secured by chemical bonding.

14. The composite sheet material of claim 11 including a spunbonded web on the opposite side of the nonwoven from the pulp web.

15. The composite sheet material of claim 11 wherein the composite is thermoformable under pressure.

16. The composite sheet material of claim 11 including a foam layer with the nonwoven web material of claim 5 secured to opposite sides thereof.

17. The composite sheet material of claim 11 having an average deflection force of at least 2.25 lb_f.

attention Examiner Norca Liz Torres-Velazquez

2

U.S. Patent Application No. 09/341,635 pending claims

- ✓ 23. The nonwoven web material of claim 5 wherein the web has a basis weight of about 60 g/m² to about 160 g/m².

Withdrawn claims.

18. A method of producing a nonwoven web material comprising:
dispersing unpulped natural fiber bundles in a fluid to form a fluid dispersion; and
depositing the fluid dispersion on a fiber collecting wire to form the nonwoven web material.
19. The method of claim 18 wherein the web material comprises at least about 30 percent by weight unpulped natural fiber bundles.
20. The method of claim 18 wherein the fluid dispersion further includes a member selected from pulp, man-made fibers and mixtures thereof.
21. The method of claim 18 further including placing a layer comprising thermoplastic fibers adjacent a side of the nonwoven web material to form a composite material.
22. The method of claim 18 further including placing a first layer comprising thermoplastic fibers adjacent a first side of the nonwoven web material and placing a second layer adjacent an opposite side of the nonwoven web from the first layer to form a composite material.

attention Examiner Norca Liz Torres-Velazquez

3

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January 21, 2003

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United States Patent & Trademark
Office

Normal

☐

High Priority

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FAX NUMBER:

703-872-9653

URGENT

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Reminder

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FROM:

JAMES E. PIOTROWSKI, ESQ.

RE: United States Patent Application No. 09/341,635

Title: Wet-Laid Nonwoven Web From Unpulped Natural Fibers and
Composite Containing Same

Inventor(s): Rui B. Ferreira and Joseph A. Rieger

Filing Date: 07/14/1999

Our/Your Ref: DEXNON/087/PC/US

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